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ABSTRACT

This paper, written for a National Archives staff training course discusses the use of computers in the classroom as reflective of the larger social trend toward an increasing dependency on automated systems to assist business and government in their efforts to more effectively manage and retrieve information. The paper also demonstrates the advantages of including elements of archival description in education units, particularly for the multimedia records of contemporary history, and explains the benefits of utilizing the expertise of both education specialists and archivists in developing education units--all of which would ultimately enhance the outreach mission of the National Archives and Records Administration (NARA): to encourage learning in history, promote the use of NARA's records, and expand investigative skills in research in primary source documents. It is noted that education units, which are currently produced for secondary level students, only include the record group identification and content description of the individual documents presented on a given topic, and that the inclusion of archival information would enhance the unit by providing additional information about the function and organization of the agencies or offices that created the records. (14 references) (MAB)

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EDUCATION UNITS AND ARCHIVAL RECORDS IN THE NEW INFORMATION TECHNOLOGY AGE

Heidi A. Ziemer
CIDs Paper

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SUMMARY

Education units, also referred to as "educational packages," are a potential vehicle for dealing with some of the problems of description and access faced by archivists and researchers in dealing with twentieth century records that are created in a variety of media. The "electronic information explosion" in the Federal Government has generated a great deal of information exchange between government agencies and other organizations at all levels, making it difficult for those documenting or researching historical topics to sort out creators and users of public information.

At the same time, the increased scope of government activities has made the National Archives a more attractive resource for research in primary source documents. Expanding the scope of education units to include electronic records will serve to make the units more representative of the types of formats used by the government to document its organizations, functions, and activities. Providing additional information in the units about the origin, use, and interrelated aspects of records that are part of a multi-media series will emphasize the archival integrity of the documents selected for the units. Working together, archivists and education specialists can improve the informational quality of the education units for public outreach. This paper will discuss the use of computers in the classroom reflecting the larger social trend toward an increased dependency on automated systems to assist

business and government in their efforts to more effectively manage and retrieve information; demonstrate the advantages of including elements of archival description in education units particularly for the multi-media records of contemporary history; and explain the benefits of utilizing the expertise of both education specialists and archivists in developing education units - all of which would ultimately enhance NARA's outreach mission: to encourage learning in history, promote the use of NARA's records, and expand investigative skills in research of primary source documents.

INTRODUCTION

Computer technology has not only created a proliferation of information available for research and learning, but has also contributed to the development of complex information networks in the Federal Government. Increased government activity, information sharing, intergovernmental functions, and new technologies have complicated the archivists' tasks in appraising and describing multi-media records series. This profusion of information and formats in which it is made available has also affected users who wish to obtain and use primary source documents of the Federal Government that are retired to archival institutions.

The range of subject matter and types of data included in NARA's

Center for Electronic Records reflect this complex network of information sources resulting from the increased interaction of various agencies. For example, the recently accessioned records of the President's Commission on Merchant Marine and Defense (RG 220) ranged from public and private correspondence, documents relating to meetings; electronic drafts of printed reports and hearings; as well as statistical data from several sources (private firms, Navy databases, and historical reports), collected on textual media and entered into a computer for a Lotus spreadsheet to evaluate current shipyard conditions; news clippings; photos and videos of related activities; and printed reports. Current NARA education units include facsimiles of textual documents, still photographs, and sound recordings, but none include electronic records.

NARA's holdings represent to some extent the advances and diversity of technologies employed by Federal agencies to document their functions and activities. In 1986 it was estimated that over 13 million reels of tape, 200,000 micro and minicomputers, 17,000 mainframes and an inestimatable number of diskettes were being utilized by Federal agencies to collect, create, disseminate and manipulate information.1 Now that electronic information has become a significant part of the documentation of government organization and processes, there should also be a corresponding effort in archival institutions to include electronic records in the development of education units and other outreach mechanisms; to familiarize researchers, educators and other users with this new

information source and, to encourage researchers to use related records from all available media. Users also need to be familiar with the archival principles that govern the retirement, storage and retrieval of the records.

Page Putnam Miller, in her report on the National Archives refers to a "multiplier effect" derived from good reference service. Producing one well developed education unit for schools can certainly have a multiple impact on the student community. One of the executive goals mentioned in Miller's report was that of increasing our efforts to involve users in plans for making records more accessible to the users and to develop better finding aids.2 A joint effort on the part of education specialists and archivists to produce education units would be one means of improving access to NARA's records. Several institutions, such as Baruch College, teach courses in public data access, and might possibly provide NARA with guidance in advancing researcher awareness of archival resources among the academic community.3 Another of Miller's recommendations was to encourage NARA to develop more extensive orientation materials for first time researchers.4 Education units can be structured in a way that would introduce users to archival records. Incorporating information in the units that conveys to the user the significance of the origin of the records, their uses by the creator, and arrangement, as well as the content of the primary source documents can promote public awareness of the special qualities of archival records.

EDUCATION UNITS USING ARCHIVAL SOURCES

NARA's goal of identifying and describing records with permanent value requires exercising a knowledge of the characteristics and use of archival records. In Staff Information paper 14, "The Preparation of Inventories," the purpose and scope of an inventory is defined as, "...a description, or listing, of records that is designed to provide information on their character and quantity... the character of records is defined in terms of their arrangement, their administrative and functional origins, their types, their inclusive dates, their content, and their relationships to other records."5 Several methods are employed to identify and describe records including: records appraisals and schedules that describe the administrative history of the agency that created the records and how the records were used; transfer documents, such as the SF-135s and SF-258s that identify records series, describing the physical characteristics, date spans, authorized disposition, and agency of custody; and NARA subject and location indexes, finding aids and inventories created to describe or list the records in terms of their arrangement, administrative and functional origin, types, inclusive dates, content, and other aspects of the "character and quantity" of the records. In many cases there are also unpublished inventories, logs, and researcher request forms, created to serve particular archival functions, that facilitate the intellectual control and retrieval of records.

At present, education units only include record group identification and content description of individual documents. By including information abstracted from the kinds of archival control documents described above (ie., series description and arrangement, related records, dates, authority, and administrative history), the units will provide additional information about the function and organization of the agencies or offices that created the records, enhancing the archival qualities of the documents presented in the units. For example, an education unit that covers early twentieth-century American labor issues could utilize electronic records created by the Bureau of Labor Statistics. Description of the records in the unit could include historical information about the BLS and about the series to which the records belong to illustrate the significance of the information used in the unit to BLS functions. The description would also help link the electronic and paper records produced by the BLS and the ways in which the information is used by other offices in the Department of Labor to establish policy. Including archival information in the units reinforces the point that the records in the unit are not isolated documents, but are components of a larger source of documentation about an agency, a policy, or a personality.

Deciding what to include in the unit preparation format involves issues like: what will be the most important elements to include that will document the nature and use of the records, what are the

potential research topics that may be related to the documents in the unit and, to what extent will decisions about the first two issues necessitate identification of related records? Knowing the provenance, function, and policies of an agency can supply information that helps answer the first question and can be used as a foundation to answer the other two. Generally speaking, archival control is progressive, beginning with information about the "quantity and quality" of the records as defined above. The archivist's knowledge about the content of the records becomes more detailed as the records are reviewed for appraisal, accessioning, inventories, publications, and reference use. The archivists' greater familiarity with the records will, in turn, lead to improved description and service of the records.

When a group of records becomes the subject of frequent research requests, and when the kinds of reasons for requesting records becomes more varied, the archivist acquires a better understanding of research issues pertinent to a group of records and, about other (ie., electronic) records with related information that will assist researchers. Over a period of time, patterns of inquiry may be identified for a group or several groups of records. Subsequently, the archivist is encouraged to create standard information lists or folders to respond to future inquiries of a similar nature. Education units can be developed to facilitate dissemination of "standard" materials identified as most useful for teachers. Some basic information about the archival context of records - the

significance of agency of origin, the formats in which information in the series was collected or created by the agency, and so forth, can also be reproduced in the units. This helps to identify the unique features shared by records in different media in various custodial units: that, for example, the records were originally created by the same agency for the same purpose.

ELECTRONIC RECORDS IN EDUCATION UNITS

Electronic records differ from textual documents in some ways that can enhance the informational value of all the records in an education unit. Records with original raw data in electronic format allow public access to more variables and information than are normally available in school texts and other publications. Instead of a textbook table of summary statistics on immigration, illustrated by one or two measures taken from the records, the education units can provide original raw data, including all the measures used in the original study, with basic description that would be applicable to the entire dataset. Raw data further allows users to follow or challenge the methods and theories developed by the original data users.

Electronic records can broaden the informational content of the unit, inviting a greater variety of uses for research or class instruction. Yet, the amount of description needed to document the

records does not necessarily increase. In fact, original documentation that accompanies electronic records provides a good deal of description that might otherwise have to be prepared by the archivist. The inclusion of original documentation in education units with electronic records provides a "raw description" of the data - the relation of the information to the mission of the organization, original issues considered, by whom, concepts that were used to operationalize a study of an issue, the methods applied to collect information, the way the data was arranged, interpreted and applied in conclusions and policy recommendations.

Adequate documentation of electronic records greatly reduces the time needed to describe the records for the units. The Data Archive on Adolescent Pregnancy and Pregnancy Prevention (DAAPP) is one among many research institutions that has become aware of the increased desire of researchers to obtain copies of the original documentation used to collect data and to study the relation of policy objectives with organization and method of data collection.6 Moreover, original documentation can often provide clues as to the agencies or offices that may have had an interest in the data - enabling researchers to investigate for possible secondary uses that may have been made of the data.

Electronic records in NARA's custody can also reduce the costs of data sharing to both NARA and its users. The major impediments to data sharing are time and financial costs that accrue to both the

producer and user.7 NARA, as a disseminator of federal records, incurs the costs of processing and disseminating the records, and providing technical assistance to users. The data users incur access and learning-to-use costs. From a technical standpoint, the fact that current NARA standards require electronic records to be transferred to its custody in a software independent format reduces the learning-to-use costs for the user. The flat files would simply need to be imported into the user's system. Concurrently, this reduces the cost to NARA of technical assistance. Technical access, however, can be a problem to potential users as long as NARA continues to accession electronic records on magnetic tape. Most schools and independent researchers utilize micros or PCs with floppy disks. It would not be problemmatic for NARA to download data samples onto floppy disks - in fact, it would be the most appropriate means for including electronic records in the education units, since the records in the units are intended to represent and illustrate particular events; describe certain types of records and; encourage further research or teach a general method of inquiry suited to the types of records presented.

Electronic records, particularly data gathering studies, are an invaluable source of information for many types of researchers. In addition to original documentation, NARA documentation or description of the files help users understand the methods and reasoning by which policies or activities were undertaken, the offices involved in analyzing the information and those involved

in policymaking, based on the information that was collected and analyzed. Many texts in history deal with subjects in environmental, military, immigration, diplomatic and other issues of the federal government. The electronic records at NARA provide researchers with a source of information that helps explain the nature of many of the policy correspondence, issuances, memoranda and legislative records in the textual units. Current description of records in different custodial units cannot link related records in different formats in a way that education units can.

For example, the attitude surveys of enlisted men and officers in the U.S. Army during World War II include information that directly relates to records in textual units documenting policies in race relations, postwar national housing, education, and agriculture policies. It is unlikely that a researcher of agriculture or land policy would think to look at a body of records from the Office of the Secretary of Defense, or, that a description of the records of the Department of Agriculture will mention the significance of soldier surveys on postwar migration to postwar land policies. However, an education unit on postwar America, developed through the combined input of archivists and education specialists, would probably develop the connection. Conversely, the authority under which the soldier surveys were initiated is not found in the electronic records, but is identified in textual units.

Records are evaluated and described in terms of their own content

and the value they have relative to other records that document a similar agency or activity. Since information sources have become so numerous and interrelated and the choices so vast, relative values of records can become a primary consideration in selecting records for permanent retention. The archivist's knowledge of the agency: its creation, authority, changes in organization and function, is invaluable. It is also necessary for the archivist to be aware of the formats and types of historical materials being used by educators to promote original research and knowledge of the past among students. Education specialists should have an interest in what kinds of materials are being preserved, just as archivists should be aware of the kinds of records that are selected to teach topics that pertain to archival holdings. Education units, developed by archivists and education specialists can enhance NARA's evaluation processes of records series or related series by supplementing records appraisal and description, for a more comprehensive documentation strategy of related records. Subsequently, the units can: a) improve outreach by providing another source for illustrating the interrelated aspects of records, b) enhance researcher evaluation and selection of the records best suited to their particular investigation by improving public awareness of the character of archival resources, and c) encourage an active intellectual exchange between archivists and scholars to support a successful public programs strategy.

SCHOOLS, COMPUTERS, AND EDUCATION UNITS - DESCRIPTION AS OUTREACH

An impetus to the addition of electronic records in education units comes from the fact that the "information explosion" resulting from the new technologies has shifted the focus of research and classroom learning from a "how to" approach in using resources, to a more comprehensive learning experience that "integrates process and product, tools and techniques, traditional print and electronic information sources."8 The increased production of education software packages as well as a number of school course descriptions reveal the growing use of computers and computer-generated information in the classroom in a variety of subjects. Instruction is not just restricted to teaching a particular subject matter; the information selection process has also become significant, especially in courses that emphasize decisionmaking in history and social studies.

Data collected from various sources reveal that there has been a tremendous effort among U.S. public and private schools to acquire and use computers for classroom instruction. A 1986-1987 Market Data Retrieval survey of U.S. public, private, and Catholic schools reported that microcomputers are now being used in 95.6% of all schools (elementary through senior high schools).9 In the early 1980s, schools were primarily interested in the acquisition of computers. More recently, it appears that this demand has been satisfied, and the new priority is to reduce the student-to computer ratio in the classroom.

The emphasis of school programs has now shifted from "how to get them" to "what to do with them." Up until the early 1980s, uses of computers were confined to hard sciences and computer literacy courses.. Moreover, earlier software programs were geared toward special groups of students: those in need of remedial learning and those in advanced programs.10 Particular emphasis is being given to teaching students how to access, evaluate, and use public data.11 However, many of the "pre-packaged" education offerings available in today's market continue to concentrate exclusively on the manipulation and analysis of data, omitting the significant aspects of the agency of origin and decisions or legal authority that generated a need for data creation and analysis. Information access is precisely the type of research skill that can be learned by using archival sources in the classroom.

Generally speaking, much of this is now changed and warrants careful consideration in developing education units for archives. The range of subjects for which education software has been developed is broadening considerably, especially in the humanities and social sciences. The formats have also undergone extensive changes, as more interactive and extensive programs appear on the market to accomodate the growing numbers of computer-proficient students. Computer proficiency among students is due to the popularity of home computers and a reduction of the student-to-computer ratio, affording students an earlier start and more user

time than was previously available. Students in the 6-17 year old range were generally found to be more aware of the use of computers as learning sources and more likely to regard computers as a beneficial learning tool than were students over 18 years of age.12 This latter observation is probably due to the fact that computers have been rather more uniformly introduced in the elementary and secondary school systems than at the college level as well as the fact that the younger students have grown up in the "computer age" and may therefore have been exposed to computers at a much earlier age in the education process.

The data implies that an initial development of education packages with electronic records is likely to be most successful if geared toward the age groups that the current education units are produced for - the secondary students. However, as the 6-17 years age group moves into college, NARA can anticipate producing units for college age groups as well. As with the current units, it would be easier for NARA to develop units for secondary schools since both the curricula and computer hardware and software are more standardized than at the college level.13 Teachers would benefit from the inclusion of electronic records in the units as they can make use of the data in a variety of ways, according to the resources available to their class and the level of achievement of the students. The electronic component could be utilized for class demonstrations or simple exercises where resources are limited, or the data could be reproduced on diskettes and distributed to

individual students for long-term projects in situations where there is ample computer time for independent work.

NARA can benefit from the development of education units with electronic records by including suggested exercises that would demonstrate how to conduct research and analysis using different archival sources. It is critical when preparing the units to illustrate the significant features of the records that are presented: their origin, functions (administrative, legal, fiscal, informational), related records, and secondary sources. A long term advantage for NARA, involved in the education process, is to introduce students, as future researchers, to the organizational and administrative structure of archival institutions through the units. As collegiate or independent researchers, these students can utilize the skills developed from their early exposure to archival materials and principles, exercising rudimentary research skills and a knowledge of the kind of information that can be obtained in an archives. An improvement in the quality of researchers will positively affect the work of the archives reference staff.

A familiarity with archival materials to improve investigative skills of researchers is an objective of the education units that requires familiarity with the records by those who are preparing the units. One objective of encouraging researcher use of the records should to reduce the time spent by the reference staff in having to guide the researcher through the basics of archival

organization and research. Effective education units will increase the number of researchers likely to utilize archival holdings in research: the archivist will face an increase in reference work, but the quality of the work will be improved by improving the quality of the researcher! Perhaps even more important to NARA's long term interests is that students learn to work with archival materials, including electronic records. As members of the work force, they will have a sense of the concepts and principles that guide records management and preservation. Today, companies that use computer technologies are involving themselves in the education process to ensure that students will be prepared to handle the equipment once they enter the workforce.14 In the same fashion, NARA can utilize the education process, through education units, to ensure that potential members of the government or government-related workforce will have a more thorough knowledge of the nature of their role as records creators and managers.

ARCHIVISTS AND EDUCATION SPECIALISTS - PRODUCING EDUCATION UNITS

"The Past is Prologue." These are the words that appear on a statue guarding the researcher entrance to the National Archives. They are also the words that best sum up the mission of NARA - to recognize the importance of preserving the past, as it is an introduction to the present. Events of the past are starting points for history today. Electronic records are a twentieth-century phenomenon, particularly a post-World War II phenomenon. Most

schools use World War II as the starting point for introducing students to "current events," whether it is in the field of economics, sociology, political science or history. In the classroom, events of the twentieth century are explained as being rooted in the time preceding them. Yet, very often the class marches forward to the end of the year, with hardly a glance back. However, school curricula are beginning to emphasize this interrelatedness of past and present in unique and innovative ways, many through the use of special, non-textual media. The education specialists, in drawing together various resources for the classroom, rely upon the archivists to provide coherent documentation of the historical record that is becoming increasingly complex. Education units represent one source that can assist archivists in providing that support, with the added benefit of enhancing shared knowledge of the records within the archival institution.

Electronic records do not need to be integrated into a unit of contemporary events, crammed into the last few weeks of the academic year along with eight presidential administrations, the Cold War and a variety of other very significant topics. Why not use a twentieth century public opinion survey on a variety of constitutional issues as a consistent reference point for a class on eighteenth or nineteenth century history, demonstrating how past events help shape today's social values? Records have an immediate and an historical relation to other records that can be best

described in the education unit format. For example, how can students talk about a current problem addressed in a United States Information Agency (USIA) public opinion survey, conducted in Italy, such as NATO and regional defense without knowing the background and function of NATO? Or, how can conditions surrounding the immigration waves of the nineteenth century be fully understood without presenting parallels and contrasts between nineteenth century America and current information describing the impact of "the new immigrants" on U.S. policy toward aliens and minorities? This is not a recommendation for teaching history "upsidedown," beginning with tensions in the Middle East and the new Bush administration, only to have to cram Washington's innauguration and the Revolutionary War into the last few weeks of class; nor does it advocate teaching special "historical units" in place of a comprhensive course in U.S. history. But contemporary and historical parallels can be illustrated simultaneously, using the same source - primary documents. Students should be aware that the archives are not simply repositories for old and illustrious parchments - that an archives is THE source for original historical records, past and present.

Archival electronic records have many unique characteristics that can be incorporated into the education units. These records can be an invaluable guide to teachers and researchers who assume the responsibility of conveying historical knowledge to an audience. The archivists' knowledge of the "history" of various records,

imparted through good descriptive work and practical experience with the records, is a valuable resource to educators. Describing records is a product of the archivists' efforts to gain intellectual control over the records for their proper administration and evaluation. These efforts can also be applied to creating finding aids, publications, or education units in response to the research requirements of various publics who have certain interests in the records. In most cases, the archivist is responding to perceived needs. Education units provide a means of developing more interactive than reactive methods of promoting archival records for outreach. Providing quality documentation for the form and content of archival holdings through an educational medium can certainly promote quality research and more efficient management of the "information explosion."

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